

AD-A058 777 ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2
12830C LANCE MISSILE NO. 3338, ROUND NO. 316 ESL.(U)
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METEOROLOGICAL DATA REPORT

12830C LANCE
MISSILE NO. 3338, ROUND NO. 316 ESL
(13 JULY 1978)

BY

WSMR METEOROLOGICAL TEAM



ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

78 08 29 069

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number) 1. Ballistics 2. Meteorology 3. Wind		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 12830C Lance, Missile Number 3338, Round Number 316 ESL, are presented in tabular form.		

INTRODUCTION

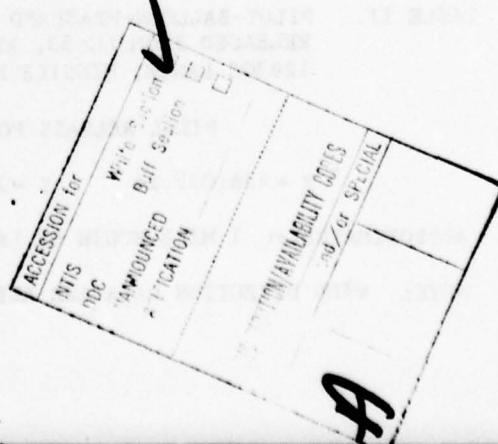
12830C Lance, Missile Number 3338, Round Number 316 ESL, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0800 HRS MDT, 13 July 1978. The scheduled launch time was 0800 HRS MDT.

DISCUSSION

Meteorological data were recorded and reduced by the WSMR Meteorological Team, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The data are presented in the following tabulations.

ELEVATION	3,977.30	FEET/MSL
PRESSURE	883.3	MBS
TEMPERATURE	24.9	°C
RELATIVE HUMIDITY	56	%
DEW POINT	15.5	°C
DENSITY	1,024	GM/M ³
WIND SPEED/DIREC.	CALM	
CLOUD COVER	1	Ac

TABLE I. SURFACE OBSERVATIONS TAKEN AT LC-33,
0800 HRS MDT/13 July 1978
12830C LANCE, MISSILE NO. 3338, ROUND NO. 316 ESL



HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	CALM		2100	289	04.5
100	CALM		2200	271	04.5
200	CALM		2300	277	04.5
300	037	00.5	2400	282	04.5
400	029	01.0	2500	268	04.5
500	027	02.5	2600	253	04.5
600	025	03.5	2700	252	04.5
700	018	05.0	2800	250	04.5
800	011	06.5	2900	259	04.0
900	014	07.0	3000	268	03.5
1000	017	07.5	3100	271	03.5
1100	018	07.0	3200	273	03.5
1200	018	06.0	3300	280	03.5
1300	014	06.0	3400	287	03.5
1400	009	06.0	3500	298	03.5
1500	009	06.5	3600	308	03.0
1600	008	07.0	3700	309	03.0
1700	343	05.5	3800	310	02.5
1800	318	04.0	3900	304	02.5
1900	313	04.5	4000	298	02.5
2000	307	04.5	4100	278	02.5

TABLE II. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 1
RELEASED FROM LC-33, AT 0750 HRS MDT/13 JULY 1978
12830C LANCE, MISSILE NO. 3338, ROUND NO. 316 ESL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,037.24 Y = 182,350.16 Z = 3,977.30

APPROXIMATELY: 1 MILE SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	258	02.0	6700	051	02.5
4300	273	02.0	6800	039	02.0
4400	288	02.0	6900	034	02.5
4500	305	02.5	7000	029	02.5
4600	322	03.0	7100	030	03.0
4700	322	02.5	7200	030	03.0
4800	321	02.0	7300	027	04.0
4900	332	02.0	7400	023	04.5
5000	342	01.5	7500	025	05.0
5100	347	01.5	7600	027	05.5
5200	352	01.5	7700	030	05.5
5300	352	01.5	7800	032	05.5
5400	352	01.5	7900	032	07.0
5500	356	01.5	8000	031	08.5
5600	360	01.5	8100	039	08.5
5700	024	01.5	8200	047	08.5
5800	048	01.5	8300	053	09.5
5900	053	02.0	8400	058	10.0
6000	058	02.5	8500	064	09.5
6100	059	03.0	8600	070	09.0
6200	060	03.0	8700	072	09.0
6300	059	03.0	8800	074	09.0
6400	057	03.0	8900	078	08.5
6500	060	03.0	9000	082	08.2
6600	062	02.5			

TABLE II. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	CALM		2100	342	03.0
100	CALM		2200	312	02.5
200	CALM		2300	302	04.0
300	CALM		2400	292	05.0
400	CALM		2500	273	05.0
500	051	00.5	2600	254	05.0
600	056	00.5	2700	254	06.0
700	051	03.5	2800	254	06.5
800	046	06.5	2900	249	06.5
900	032	06.5	3000	244	06.0
1000	017	06.0	3100	234	06.5
1100	029	08.0	3200	223	06.5
1200	041	10.0	3300	226	06.0
1300	046	08.0	3400	229	05.5
1400	051	06.0	3500	243	04.5
1500	042	05.0	3600	256	03.0
1600	033	03.5	3700	255	03.5
1700	023	04.5	3800	254	03.5
1800	013	05.5	3900	275	02.5
1900	012	04.5	4000	295	01.5
2000	011	03.5	4100	281	02.0

TABLE III. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 2
RELEASED FROM LC-33, at 0800 HRS MDT/13 JULY 1978
12830C LANCE, MISSILE NO. 3338, ROUND NO. 316 ESL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,037.24 Y = 182,350.16 Z = 3,977.30

APPROXIMATELY: 1 MILE SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	266	02.5
4300	277	03.5
4400	287	04.0
4500	280	04.0
4600	273	03.5
4700	297	03.5
4800	320	03.5
4900	022	02.5
5000	083	01.0
5100	150	02.5
5200	217	03.5
5300	306	02.0
5400	034	00.5
5500	066	01.0
5600	097	01.5
5700	070	01.5
5800	042	01.5
5900	069	02.0
6000	096	02.0
6100	082	03.0
6200	067	03.5
6300	074	04.0
6400	081	04.5
6500	064	05.0
6600	047	05.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
6700	047	06.0
6800	046	06.0
6900	037	05.0
7000	027	04.0
7100	041	03.0
7200	055	01.5
7300	039	02.0
7400	023	02.5
7500	031	04.5
7600	039	06.0
7700	028	06.5
7800	017	07.0
7900	021	07.0
8000	025	06.5
8100	028	06.5
8200	030	06.5
8300	036	07.0
8400	042	07.0
8500	047	08.0
8600	052	09.0
8700	056	09.5
8800	059	09.5
8900	068	09.0
9000	076	08.0

TABLE III. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	03	093
-20.0	03	093
-10.0	04	096
-00.00	05	096
+10.00	04	091
+20.00	04	093
+30.00	05	097

TABLE IV. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 2
LAUNCHED FROM LC-33, 0800 HRS MDT/13 JULY 1978
12830C LANCE, MISSILE NO. 3338, ROUND NO. 316 ESL

WSTM COORDINATES: X = 485,874.93 Y = 186,012.00 Z = 4,033.57

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

TATION ALTITUDE 4051.00 FEET MSL
13 JULY 78 0730 HRS MDT
ASCENSION NO. 98

SIGNIFICANT LEVEL DATA
19400300SC
JALLEN
TABLE V.

GEODETIC COORDINATES
33°16'12" LAT DEG
106°49'51" LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	DEWPONT CENTIGRADE	REL.HUM. PERCENT
878.0	4051.0	23.6	13.5	53.0
867.6	4343.9	24.8	10.7	41.0
850.0	4963.9	24.3	9.5	39.0
785.7	7255.3	21.6	5.5	35.0
700.0	10461.0	13.8	2.4	46.0
578.3	15635.0	1.3	-6.0	58.0
552.0	16842.9	-2.3	-5.6	78.0
536.2	17640.6	-3.5	-6.5	68.0
508.3	19042.5	-6.9	-10.9	73.0
500.0	19445.1	-7.4	-13.4	62.0
465.2	21251.4	-11.2	-16.0	64.0
441.4	22593.9	-14.6	-16.8	63.0
434.6	22966.9	-15.0	-16.7	73.0
425.5	23512.1	-16.7	-19.5	79.0
420.4	23810.4	-16.6	-25.2	47.0
405.0	24751.9	-17.5	-31.5	28.0
400.0	25057.6	-18.4	-28.0	40.0
396.0	25244.5	-18.4	-30.0	35.0
389.5	25690.6	-19.0	-26.5	52.0
382.8	26115.3	-19.6	-28.7	44.0
352.4	28120.4	-24.2	-36.3	57.0
338.6	29075.8	-26.1	-36.7	56.0
300.0	31944.1	-32.2	-43.5	32.0
262.6	34969.4	-39.9	-50.4	31.0
250.0	36069.7	-42.5		
200.0	40903.7	-54.8		
184.4	42548.1	-59.2		
150.0	46746.6	-66.9		
136.0	48751.7	-68.3		
111.8	52544.2	-75.2		

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STATION ALTITUDE 4051.00 FEET MSL
13 JULY 78 0730 HRS MDT
ASCENSION ISL.

SIGNIFICANT LEVEL DATA
1940030098
JALLEN
TABLE V. (CONT)

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

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PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
100.0	54695.7	-71.9	
93.0	56104.8	-72.6	
70.0	61708.4	-65.7	
60.3	64739.0	-60.5	
50.0	68551.1	-60.7	
30.0	79257.2	-54.3	
20.0	87901.1	-49.0	
12.3	98738.8	-40.2	

STATION ALTITUDE 4051.00 FEET MSL
13 JULY 78 0730 HRS MDT
ASCENSION ISL.

UPPER AIR DATA
1940030098
JALLEN
TABLE VI.

GEOGRAPHIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
4051.0	878.0	23.6	13.5	53.0	1023.9	673.3	290.0	1.000295
4500.0	864.4	24.7	10.4	40.6	1005.4	674.2	291.0	1.000278
5000.0	849.5	24.3	9.4	39.0	989.8	673.7	291.8	1.000271
5500.0	834.8	23.7	8.6	38.1	974.6	672.9	292.5	1.000265
6000.0	820.4	23.1	7.7	37.2	960.1	672.1	293.9	1.000259
6500.0	806.1	22.5	6.8	36.3	945.5	671.4	298.8	1.000254
7000.0	792.2	21.9	5.9	35.4	931.2	670.0	297.2	1.000248
7500.0	778.3	21.0	5.3	35.9	917.9	669.6	278.4	1.000244
8000.0	764.6	19.8	4.9	37.6	905.5	668.2	330.6	1.000240
8500.0	751.1	18.6	4.5	39.3	893.2	666.8	36.3	1.000236
9000.0	737.9	17.4	4.0	41.0	881.1	665.4	53.6	1.000233
9500.0	724.9	16.2	3.5	42.7	869.3	664.0	61.7	1.000229
10000.0	712.1	15.0	2.9	44.4	857.6	662.6	65.4	1.000226
10500.0	699.5	13.8	2.4	46.0	846.0	661.2	61.7	1.000222
11000.0	686.7	12.5	1.6	47.2	834.2	659.7	36.1	1.000218
11500.0	674.2	11.3	.8	48.4	822.6	658.3	18.5	1.000214
12000.0	661.9	10.1	.0	49.5	811.1	656.8	254.6	1.000210
12500.0	649.8	8.9	-.7	50.7	799.8	655.4	246.1	1.000206
13000.0	637.9	7.7	-1.6	51.9	788.7	653.9	236.9	1.000202
13500.0	626.2	6.5	-2.4	53.0	777.7	656.5	621.7	1.000198
14000.0	614.9	5.3	-3.2	54.2	767.0	651.0	224.9	1.000194
14500.0	603.5	4.1	-4.1	55.4	756.3	649.5	227.7	1.000191
15000.0	592.5	2.8	-4.9	56.5	745.9	648.1	231.4	1.000187
15500.0	581.7	1.6	-5.8	57.7	735.6	646.6	217.4	1.000184
16000.0	570.8	.2	-5.3	63.9	725.4	645.0	186.5	1.000182
16500.0	560.1	-1.2	-5.6	71.9	715.5	643.3	181.0	1.000180
17000.0	549.5	-2.5	-6.0	76.5	705.4	641.8	178.2	1.000177
17500.0	539.1	-3.3	-8.0	69.9	694.3	640.7	169.3	1.000172
18000.0	528.8	-4.4	-9.1	69.3	683.9	639.4	164.9	1.000168
18500.0	516.7	-5.6	-10.0	71.1	674.0	637.9	161.4	1.000165

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STATION ALTITUDE 4051.00 FEET MSL
13 JULY 78 0730 HRS MDT
ASCENSION NO. 98

UPPER AIR DATA
1940030090
TABLE VI. (CONT)

GEODETIC COORDINATES
33°16'12" LAT DEG
106°49'51" LON DEG

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GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN) KNOTS	INDEX OF REFRACTION
19000.0	508.7	-9.8	-10.9	72.9	664.2	636.4	161.9	9.9
19500.0	496.9	-7.5	-13.5	62.1	653.2	635.5	163.4	8.6
20000.0	489.2	-8.5	-14.4	62.6	643.1	634.2	166.0	8.1
20500.0	479.7	-9.6	-15.3	63.1	633.1	632.9	169.1	7.7
21000.0	470.4	-10.6	-16.1	63.7	623.3	631.7	174.0	6.7
21500.0	461.2	-11.8	-16.6	67.2	613.8	630.3	160.8	5.8
22000.0	452.1	-13.1	-16.6	74.4	604.7	628.7	182.0	5.2
22500.0	443.2	-14.3	-16.8	81.6	595.7	627.2	181.7	4.5
23000.0	434.4	-15.0	-18.7	73.1	585.6	626.3	173.6	3.5
23500.0	425.7	-16.7	-19.4	78.9	577.5	624.3	164.8	2.4
24000.0	417.2	-16.8	-26.3	43.1	566.5	624.0	157.5	0.9
24500.0	408.8	-17.3	-29.7	32.8	556.3	623.3	22.8	0.6
25000.0	400.6	-16.3	-28.9	38.5	547.3	622.1	5.8	2.0
25500.0	392.5	-18.7	-27.9	44.0	537.1	621.0	0.6	3.4
26000.0	384.6	-19.4	-28.0	46.2	527.6	620.7	358.3	4.8
26500.0	376.8	-20.5	-28.9	46.5	519.2	619.4	1.5	5.5
27000.0	369.1	-21.6	-29.3	49.7	510.9	618.0	3.7	6.2
27500.0	361.5	-22.8	-29.7	53.0	502.8	616.6	4.8	6.8
28000.0	354.2	-23.9	-30.1	56.2	494.8	615.2	6.0	6.9
28500.0	346.9	-25.0	-32.6	48.7	486.6	613.9	7.9	6.1
29000.0	339.7	-25.9	-36.1	37.7	478.5	612.6	16.9	5.2
29500.0	332.6	-27.0	-37.6	35.4	470.5	611.3	43.5	5.0
30000.0	325.6	-28.1	-38.8	34.7	462.7	609.9	63.5	5.8
30500.0	318.7	-29.2	-40.0	34.0	454.9	608.6	70.9	7.0
31000.0	312.0	-30.2	-41.1	33.3	447.3	607.3	74.9	7.8
31500.0	305.5	-31.3	-42.3	32.6	439.9	605.9	76.5	7.9
32000.0	299.0	-32.4	-43.4	32.0	432.6	604.5	75.8	7.7
32500.0	292.5	-33.7	-44.6	31.8	425.5	602.9	72.6	7.4
33000.0	286.2	-34.9	-45.8	31.6	418.5	601.3	70.6	6.4
33500.0	280.0	-36.2	-47.0	31.5	411.6	599.7	68.8	5.1

STATION ALTITUDE 4051.00 FEET MSL
 13 JULY 78 0730 HRS MDT
 ASCENSION NO. 98

UPPER AIR DATA
 1940030096
 JALLEN
 TABLE VI. (CONT)

GEOGRAPHIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES C	AIR DEWPOINT DEGREES C	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
34000.0	274.0	-37.4	-48.2	31.3	404.9	598.1	69.3	3.6	1.000091
34500.0	268.0	-38.7	-49.3	31.2	398.3	596.5	73.1	2.0	1.000089
35000.0	262.2	-40.0	-50.7	30.1**	391.8	594.9	47.4	1.4	1.000088
35500.0	256.4	-41.2	-56.9	16.1**	385.1	593.4	10.3	1.6	1.000086
36000.0	250.8	-42.3	-73.1	2.0**	376.5	591.9	7.1	3.5	1.000084
36500.0	245.1	-43.6			371.9	590.3	8.0	5.8	1.000083
37000.0	239.5	-44.9			365.5	588.6	10.6	8.0	1.000081
37500.0	234.0	-46.1			359.1	587.0	12.6	10.1	1.000080
38000.0	228.7	-47.4			352.9	585.3	19.4	10.1	1.000079
38500.0	223.5	-48.7			346.8	583.7	29.0	9.6	1.000077
39000.0	218.4	-50.0			340.8	582.0	37.1	8.6	1.000076
39500.0	213.4	-51.2			335.0	580.4	46.1	7.5	1.000075
40000.0	208.5	-52.5			329.2	578.7	47.6	6.8	1.000073
40500.0	203.8	-53.8			323.6	577.0	41.4	6.5	1.000072
41000.0	199.1	-55.1			318.0	575.3	34.2	6.0	1.000071
41500.0	194.4	-56.3			312.3	573.6	24.2	5.3	1.000070
42000.0	189.8	-57.6			306.8	571.9	13.3	4.9	1.000069
42500.0	185.3	-58.9			301.3	570.2	12.6	5.6	1.000067
43000.0	180.6	-59.9			295.4	568.9	12.5	6.4	1.000066
43500.0	176.4	-60.9			289.4	567.6	26.0	6.7	1.000064
44000.0	172.1	-61.8			283.6	566.4	40.5	7.3	1.000063
44500.0	167.9	-62.7			277.9	565.2	53.0	6.8	1.000062
45000.0	163.8	-63.6			272.3	563.9	70.4	5.7	1.000061
45500.0	159.8	-64.5			266.9	562.7	86.0	5.0	1.000059
46000.0	155.9	-65.5			261.5	561.4	91.0	3.9	1.000058
46500.0	152.1	-66.4			256.3	560.2	99.0	2.9	1.000057
47000.0	148.4	-67.1			250.6	559.3	93.2	2.1	1.000056
47500.0	144.7	-67.4			245.0	558.8	80.6	1.3	1.000055
48000.0	141.1	-67.8			239.3	558.3	105.8	1.2	1.000053
48500.0	137.6	-68.1			233.6	557.6	132.1	1.6	1.000052

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.00 FEET MSL
 13 JULY 78 0730 HRS MDT
 ASCENSION I.O. 98

UPPER AIR DATA
 1940030090
 JALLEN
 TABLE VI. (CONT)

GEODETIC COORDINATES
 33°16'71.2 LAT DEG
 106°49'51.1 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	INDEX OF REFRACTION
49000.0	134.1	-68.8	226.7	556.9	123.2	1.8	1.0000051
49500.0	130.7	-69.7	223.8	555.7	94.1	2.0	1.0000050
50000.0	127.4	-70.6	219.1	554.5	76.7	3.4	1.0000049
50500.0	124.2	-71.5	214.5	553.2	73.4	6.6	1.0000048
51000.0	121.0	-72.4	210.0	552.0	72.2	9.8	1.0000047
51500.0	118.0	-73.3	205.6	550.7	66.9	12.0	1.0000046
52000.0	115.0	-74.2	201.3	549.5	96.6	14.8	1.0000045
52500.0	112.1	-75.1	197.1	548.2	108.7	15.1	1.0000044
53000.0	109.2	-74.5	191.5	549.1	126.2	14.3	1.0000043
53500.0	106.4	-73.7	185.9	550.1	143.3	14.3	1.0000041
54000.0	103.7	-73.0	180.4	551.2	160.9	11.1	1.0000040
54500.0	101.0	-72.2	175.1	552.3	167.6	9.6	1.0000039
55000.0	98.4	-72.1	170.5	552.5	211.5	5.4	1.0000038
55500.0	95.9	-72.3	166.4	552.1	303.0	3.6	1.0000037
56000.0	93.5	-72.5	162.4	551.8	350.6	7.3	1.0000036
56500.0	91.2	-72.1	156.0	552.4	33.9	10.7	1.0000035
57000.0	88.9	-71.5	153.5	553.2	51.0	16.9	1.0000034
57500.0	86.6	-70.9	149.2	554.1	66.2	18.3	1.0000033
58000.0	84.5	-70.3	145.1	554.9	81.4	19.7	1.0000032
58500.0	82.4	-69.7	141.0	555.7	91.6	20.6	1.0000031
59000.0	80.3	-69.0	137.1	556.6	98.2	18.9	1.0000031
59500.0	78.3	-68.4	133.2	557.4	105.6	17.4	1.0000030
60000.0	76.3	-67.8	129.5	556.3	102.1	18.3	1.0000029
60500.0	74.4	-67.2	125.9	559.1	97.5	19.7	1.0000028
61000.0	72.6	-66.6	122.4	559.9	94.7	20.5	1.0000027
61500.0	70.7	-66.0	118.9	560.6	93.4	20.3	1.0000026
62000.0	69.0	-65.2	115.6	561.8	92.2	20.2	1.0000025
62500.0	67.3	-64.3	112.3	562.9	94.5	18.3	1.0000025
63000.0	65.7	-63.5	109.1	564.1	97.3	16.5	1.0000024
63500.0	64.1	-62.6	106.1	565.3	96.3	15.7	1.0000024

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STATION ALTITUDE 4051.00 FEET MSL
 13 JULY 78 0730 HRS MDT
 ASCENSION NO. 98

UPPER AIR DATA
 19400300090
 JALLEN
 TABLE VI. (CONT)

GEODETIC COORDINATES
 33°16'12" LAT DEG
 106°49'51" LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEPOANT PERCENT	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
04000.0	62.5	-61.8			103.1	569.4	92.4	15.5	1.000023
04500.0	61.0	-60.9			100.1	567.6	88.7	15.6	1.000022
05000.0	59.5	-60.5			97.5	568.1	87.1	16.3	1.000022
05500.0	58.1	-60.5			95.2	568.1	85.7	17.1	1.000021
06000.0	56.7	-60.6			92.9	568.0	84.6	17.7	1.000021
06500.0	55.4	-60.6			90.7	568.0	85.1	17.9	1.000020
07000.0	54.0	-60.6			88.5	567.9	85.5	18.2	1.000020
07500.0	52.7	-60.6			86.4	567.9	85.7	18.4	1.000019
08000.0	51.5	-60.7			84.4	567.9	85.6	18.6	1.000019
08500.0	50.2	-60.7			82.3	567.8	85.5	18.9	1.000018
09000.0	49.0	-60.5			80.3	568.2	87.3	19.2	1.000018
09500.0	47.9	-60.2			78.3	568.6	91.3	19.5	1.000017
10000.0	46.7	-59.9			76.3	569.0	95.1	19.9	1.000017
10500.0	45.6	-59.6			74.4	569.4	99.1	20.4	1.000017
11000.0	44.6	-59.3			72.6	569.8	103.2	21.1	1.000016
11500.0	43.5	-59.0			70.7	570.2	107.0	21.8	1.000016
12000.0	42.5	-58.7			69.0	570.6	104.3	22.1	1.000015
12500.0	41.5	-58.4			67.2	571.0	100.6	22.4	1.000015
13000.0	40.5	-58.1			65.6	571.4	96.2	22.7	1.000015
13500.0	39.5	-57.8			63.9	571.8	89.2	23.4	1.000014
14000.0	38.6	-57.5			62.3	572.2	82.6	24.4	1.000014
14500.0	37.7	-57.2			60.8	572.6	80.5	25.4	1.000014
15000.0	36.8	-56.9			59.2	573.0	81.3	26.2	1.000013
15500.0	35.9	-56.6			57.6	573.4	82.1	27.0	1.000013
16000.0	35.1	-56.3			56.3	573.7	83.3	28.0	1.000013
16500.0	34.2	-56.0			54.9	574.1	84.5	29.0	1.000012
17000.0	33.4	-55.7			53.5	574.5	85.2	30.0	1.000012
17500.0	32.6	-55.4			52.2	574.9	85.3	30.9	1.000012
18000.0	31.9	-55.1			50.9	575.3	85.3	31.9	1.000011
18500.0	31.1	-54.8			49.6	575.7	86.3	31.8	1.000011

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STATION ALTITUDE 4051.00 FEET MSL
 13 JULY 78 0730 HRS MDT
 ASSENSION NO. 98

UPPER AIR DATA
 1940030098
 JALLEN
 TABLE VI. (CONT)

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

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GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
79000.0	30.4	-54.5	48.4	576.1	87.6	31.2	1.000011	
79500.0	29.7	-54.2	47.2	576.5	89.4	30.6	1.000011	
80000.0	29.0	-53.8	46.0	576.9	90.0	30.8	1.000010	
80500.0	28.3	-53.5	44.9	577.3	90.5	31.1	1.000010	
81000.0	27.7	-53.2	43.6	577.7	91.0	31.5	1.000010	
81500.0	27.0	-52.9	42.7	578.1	91.5	32.1	1.000010	
82000.0	26.4	-52.6	41.7	578.5	92.0	32.7	1.000009	
82500.0	25.8	-52.3	40.7	578.9	92.4	33.2	1.000009	
83000.0	25.2	-52.0	39.7	579.3	92.9	33.2	1.000009	
83500.0	24.6	-51.7	38.7	579.7	93.3	33.2	1.000009	
84000.0	24.1	-51.4	37.6	580.1	93.4	33.6	1.000008	
84500.0	23.5	-51.1	36.9	580.5	93.2	34.4	1.000008	
85000.0	23.0	-50.8	36.0	580.9	93.0	35.2	1.000008	
85500.0	22.4	-50.5	35.1	581.3	93.3	35.7	1.000008	
86000.0	21.9	-50.2	34.2	581.7	93.7	36.2	1.000008	
86500.0	21.4	-49.9	33.4	582.1	94.2	36.7	1.000007	
87000.0	20.9	-49.6	32.6	582.5	94.3	37.2	1.000007	
87500.0	20.4	-49.3	31.6	582.9	94.5	37.8	1.000007	
88000.0	20.0	-49.0	31.0	583.3	94.0	38.4	1.000007	
88500.0	19.5	-48.6	30.3	583.8	94.1	39.0	1.000007	
89000.0	19.1	-48.2	29.5	584.4	93.6	39.6	1.000007	
89500.0	18.7	-47.7	28.6	584.9	93.4	40.2	1.000006	
90000.0	18.2	-47.3	28.1	585.4	93.9	40.8	1.000006	
90500.0	17.8	-46.9	27.5	586.0	94.3	41.4	1.000006	
91000.0	17.4	-46.5	26.8	586.5	93.8	41.1	1.000006	
91500.0	17.0	-46.1	26.2	587.0	91.0	39.5	1.000006	
92000.0	16.7	-45.7	25.5	587.5	89.2	37.9	1.000006	
92500.0	16.3	-45.3	24.9	588.1	86.2	36.3	1.000006	
93000.0	15.9	-44.9	24.3	588.6	82.7	34.8	1.000005	
93500.0	15.6	-44.5	23.7	589.1	78.6	33.3	1.000005	

STATION ALTITUDE 4051.00 FEET
13 JULY 78 0730 HRS MDT
ASCENSION NO. 93

UPPER AIR DATA
19400300ZC
ALLEN
TABLE VI. (CONT)

GEODETIC COORDINATES
33°10'712 LAT DEG
106°49'511 LONG DEG

GEODETIC ALTITUDE IN FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
9400.0	15.2	-44.1	23.6	589.0	76.0	32.9	1.000005	
7450.0	14.9	-43.7	22.6	590.2	75.3	32.8	1.000005	
7500.0	14.6	-43.3	22.1	590.7	73.9	32.8	1.000005	
7550.0	14.2	-42.3	21.5	591.2	72.4	32.6	1.000005	
7600.0	13.9	-42.4	21.0	591.7	70.9	32.3	1.000005	
7650.0	13.6	-42.0	20.5	592.3			1.000005	
7700.0	13.3	-41.6	20.0	592.6			1.000004	
7750.0	13.0	-41.2	19.5	593.3			1.000004	
7800.0	12.7	-40.8	19.1	593.8			1.000004	
7850.0	12.4	-40.4	18.6	594.4			1.000004	

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STATION ALTITUDE 4051.00 FEET MSL
 13 JULY 78 0730 HRS MDT
 ASSEMBLION 16.0.

MANDATORY LEVELS
 1940030045
 JALLEN
 TABLE VII.

GEOGRAPHIC COORDINATES
 33°16'71.2 LAT DEG
 106°49'51.1 LONG DEG

PRESSURE GEOPOTENTIAL MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES	AIR TEMP POINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS
650.0	4981.	24.3	9.5	39.	291.8	2.5
600.0	6710.	22.2	6.4	30.	301.2	2.7
750.0	8540.	18.5	4.4	39.	37.8	2.4
700.0	10471.	15.8	2.4	40.	62.0	3.1
650.0	12500.	8.9	-.7	51.	440.1	2.1
600.0	14664.	5.7	-4.3	50.	226.9	2.8
550.0	16957.	-2.4	-6.0	77.	179.1	4.0
500.0	19419.	-7.4	-13.4	62.	163.2	6.7
450.0	22084.	-15.4	-16.7	70.	182.4	5.1
400.0	24997.	-18.4	-28.0	49.	5.0	2.0
350.0	26234.	-24.5	-31.2	53.	7.0	6.5
300.0	31662.	-32.2	-43.3	32.	76.3	7.8
250.0	35392.	-42.5			7.3	3.8
200.0	40800.	-54.8			30.1	0.2
175.0	43564.	-61.2			31.2	0.6
150.0	46662.	-68.9			90.4	2.4
125.0	50240.	-74.3			75.9	5.7
100.0	54527.	-71.9			196.8	9.3
80.0	58850.	-68.9			98.5	16.8
70.0	61500.	-65.7			92.9	20.3
60.0	64610.	-60.5			67.7	16.0
50.0	68337.	-50.7			65.5	16.9
40.0	72920.	-57.9			95.7	22.9
30.0	76920.	-54.5			88.5	36.9
25.0	82770.	-51.9			96.9	33.2
20.0	87550.	-49.0			94.7	36.3
15.0	93520.	-43.8			75.9	32.9

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATIC ALTITUDE 3,769.00 FEET MSL
13 JULY 73 0750 HRS MDT
ASSENS, I.O.C. 45°

SIGNIFICANT LEVEL DATA
WHITE SAILS
TABLE VIII.

GEOCENTRIC COORDINATES
32°40'04" LAT UEG
106°37'03" LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE FEET	TEMPERATURE A.R. DEGREE CENTIGRAD	REL. HUM. PERCENT	
			AIR DEPOINT	WATER DEPOINT
366.1	3969.0	25.7	44.0	51.0
350.0	4094.7	25.1	39.0	38.0
375.0	3847.0	10.4	4.4	37.0
700.0	10426.7	14.1	2.7	46.0
586.0	15245.0	5.3	-5.0	32.0
328.6	16023.8	-3.2	-8.0	98.0
500.0	19435.5	-5.8	-19.0	32.0
482.4	20446.2	-7.4	-30.0	14.0
467.2	21233.5	-9.3	-19.0	42.0
438.4	22843.4	-12.2	-26.5	49.0
417.4	24073.5	-14.4	-32.7	49.0
415.4	24132.3	-14.9	-30.7	31.0
410.0	24470.5	-15.2	-26.9	36.0
402.7	24965.0	-16.0	-34.0	18.0
400.0	25131.7	-16.4	-25.0	47.0
376.0	26543.5	-19.3	-33.0	72.0
347.2	26502.6	-24.2	-34.4	38.0
335.6	29395.9	-25.8	-32.1	55.0
324.0	30233.3	-26.9	-37.7	35.0
300.0	32045.4	-31.2	-35.0	43.0
266.0	35257.9	-39.5	-46.0	36.0
250.0	36206.3	-41.6		
210.6	39925.0	-51.5		
200.0	41034.4	-53.7		
190.2	42146.5	-54.6		
150.0	47045.0	-65.0		
130.6	49777.9	-67.2		
107.0	53601.5	-73.7		
100.0	54970.0	-71.5		
70.0	62052.3	-65.4		

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STATION ALTITUDE 3,935.00 FEET MSL
13 JULY 76 0750 HRS MDT
ASCENSION NO. 432

SIGNIFICANT LEVEL DATA
19400±045'
WHITE SANDS
TABLE VIII. (CONT)

GEODETIC COORDINATES
32°40'04.3" LAT DEG
106°37'03.3" LON DEG

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PRESSURE GEOMETRIC MILLIBARS MSL FELT	TEMPERATURE ALTITUDE DEGREES	REL. HUM. AIR DEPOINT CENTIGRADE PERCENT
63.4	64006.3	-60.3
56.0	63945.0	-61.3
38.6	74242.1	-55.4

STATION: LITTLIDGE 5,339.00 FEET MSL
 13 JULY 73 0750 HRS MDT
 ALTITUDE: 11,000 FT

UPPER AIR DATA
 194000Z 0432
 WHITE STATION
 TABLE IX.

GEOGRAPHIC COORDINATES
 32°40'04.3" LAT DEG
 106°37'03.3" LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEGREES	RELAT. HUM. PERCENT	LENSITY GM/CU FT METER	SPEED OF SOUND IN METERS SEC	DIRECTION DEGREES (TN) FROM NORTH	WIND SPEED KIOTS	INDEX OF REFRACTION
984.0	860.1	25.7	14.3	51.0	1016.5	672.9	0.0	0.0	1.000299
4000.0	279.6	25.7	14.3	50.9	1016.1	672.9	.7	.0	1.000298
4500.0	364.7	25.4	12.4	44.4	1002.6	672.3	.7	.7	1.000285
5000.0	349.6	25.1	9.3	38.0	987.3	674.6	.7	1.5	1.000272
5500.0	335.1	24.3	2.0	37.9	972.1	672.6	.7	2.2	1.000266
6000.0	320.6	23.4	8.2	37.7	959.1	672.6	317.5	2.2	1.000261
6500.0	306.4	22.6	7.4	37.6	945.2	671.0	270.5	4.0	1.000255
7000.0	292.4	21.3	6.6	37.4	931.0	670.6	262.2	4.2	1.000250
7500.0	278.0	20.9	5.8	37.3	918.2	669.0	257.5	3.9	1.000245
8000.0	265.1	20.1	5.0	37.1	905.0	662.0	273.2	2.3	1.000240
8500.0	251.6	19.2	4.3	37.4	892.4	667.5	316.9	1.4	1.000236
9000.0	238.5	17.9	4.0	39.5	880.2	660.0	2.4	1.7	1.000232
9500.0	225.4	16.6	3.6	41.7	868.4	664.6	38.3	2.1	1.000229
10000.0	212.6	15.4	3.1	43.8	856.9	663.1	66.0	2.9	1.000226
10500.0	200.0	14.1	2.7	46.0	845.5	661.6	69.5	3.3	1.000222
11000.0	187.4	13.0	1.6	46.6	835.6	650.2	69.5	3.5	1.000218
11500.0	174.7	11.8	1.0	47.3	821.0	656.9	53.3	3.9	1.000214
12000.0	162.4	10.7	.1	47.9	810.2	657.3	49.6	4.6	1.000210
12500.0	150.4	9.5	-.6	48.5	796.8	656.1	64.2	5.6	1.000205
13000.0	138.5	8.4	-1.6	49.2	787.3	654.8	60.6	6.5	1.000201
13500.0	126.9	7.3	-2.5	49.8	776.4	653.4	96.7	7.9	1.000197
14000.0	115.5	6.1	-3.4	50.4	765.5	652.0	99.4	8.3	1.000194
14500.0	104.2	5.0	-4.3	51.1	754.8	650.6	100.7	8.5	1.000190
15000.0	93.3	3.9	-5.2	51.7	744.2	649.3	96.0	8.3	1.000186
15500.0	82.3	2.7	-5.8	52.5	733.5	647.9	91.1	8.2	1.000183
16000.0	71.4	1.6	-6.2	56.3	722.0	646.5	80.3	8.6	1.000180
16500.0	60.7	.4	-5.6	59.1	712.2	645.1	83.6	8.9	1.000178
17000.0	50.1	-.6	-7.1	62.0	701.9	643.3	83.4	9.0	1.000175
17500.0	39.6	-1.9	-7.0	64.8	691.7	646.4	63.0	7.9	1.000172
18000.0	29.7	-2.2	67.7	-3.1	681.0	641.0	101.4	6.4	1.000169

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STATION ALTITUDE 3459.00 FLEET MSL
13 JULY 76 0750 HRS MDT
ASCENSION NO. 400

UPPER AIR DATA
1940020436
WHITE SANDS
TABLE IX. (CONT)

GEOGRAPHIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CELSIUS	AIR DUMPCINT CENTIGRADE	REL.HUM. PERCENT	DENSITY CM/CUBIC METER	SPEED OF WIND DATA KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION.
43500.0	519.6	-44.0	-14.3	56.9	671.2	639.7	125.9	5.2	1.000163
42000.0	509.7	-44.9	-15.1	44.4	661.0	636.5	154.4	5.2	1.000157
41500.0	499.9	-55.3	-16.8	31.9	650.6	637.3	161.5	5.8	1.000152
40000.0	490.3	-6.7	-24.7	22.1	640.5	636.1	165.8	6.2	1.000147
39500.0	480.6	-7.6	-28.4	16.9	630.5	635.0	166.8	6.1	1.000144
39000.0	471.5	-8.3	-21.7	34.0	620.7	633.7	165.5	6.0	1.000144
38500.0	462.3	-9.8	-20.8	39.8	610.9	632.5	159.2	5.7	1.000142
38000.0	453.5	-10.7	-22.9	35.8	601.1	631.4	150.1	5.0	1.000139
37500.0	444.4	-11.6	-25.0	31.8	591.5	630.3	130.4	3.8	1.000136
37000.0	435.7	-12.5	-25.9	31.5	581.9	629.2	103.1	3.0	1.000134
35000.0	427.1	-13.4	-24.1	39.7	572.3	628.1	66.1	2.5	1.000132
34000.0	418.6	-14.3	-22.9	47.8	562.6	627.1	43.9	2.8	1.000131 TO DDC
34500.0	410.3	-15.2	-27.2	34.9	553.9	625.8	38.4	3.0	1.000127
35000.0	402.1	-16.1	-31.9	24.1	544.7	624.7	31.4	3.6	1.000124
35500.0	394.1	-17.3	-24.4	53.6	536.1	623.4	25.7	4.4	1.000124
36000.0	386.1	-18.5	-23.9	62.6	527.8	621.9	28.4	5.2	1.000123
37000.0	378.4	-19.7	-23.5	71.6	519.7	620.4	32.4	5.8	1.000121
37500.0	370.6	-20.6	-25.4	64.1	511.3	619.4	37.0	4.5	1.000119
38000.0	362.1	-21.9	-26.3	55.9	503.1	617.7	47.4	3.2	1.000116
38500.0	355.7	-23.9	-31.0	47.6	495.0	616.4	69.0	4.1	1.000113
39000.0	348.4	-24.0	-33.9	39.4	487.0	615.0	78.5	5.7	1.000111
39500.0	341.2	-25.0	-33.1	46.7	470.0	613.8	76.4	6.7	1.000109
40000.0	334.1	-26.9	-32.7	52.5	470.6	612.7	74.7	10.4	1.000107
40500.0	327.2	-26.6	-35.9	40.6	462.1	611.3	72.3	10.7	1.000105
41000.0	320.4	-27.5	-37.9	36.2	454.6	610.6	69.0	9.9	1.000103
41500.0	313.6	-28.7	-36.4	38.4	446.9	609.6	60.0	8.3	1.000101
42000.0	307.6	-29.9	-39.0	40.6	439.0	607.7	60.4	7.3	1.000100
42500.0	300.6	-31.1	-39.5	42.6	432.0	600.2	51.3	6.5	1.000098
43000.0	294.4	-32.4	-40.9	42.0	425.4	604.6	42.8	6.7	1.000096
	287.6	-33.7	-42.3	40.3	418.5	602.9	35.7	7.2	1.000094

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STATIC ALTITUDE 3939.00 FLEET MSL
 1 JULY 76 0750 HRS MDT
 ASCENSION 1.0. 452

UPPER AIR DATA
 1940020434
 WHITE SANDS
 TABLE IX. (CONT)

GEOGRAPHIC COORDINATES
 32.40043 LAT LEG
 106.37033 LON LEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	REF. METER	LENSITY CM/CUBIC METER	SPEED OF WIND DATA DIRECTION DEGREES(TIN)	SPEED KNOTS	INDEX OF REFRACTION
33500.0	261.0	-35.0	39.8	414.7	601.3	28.9	6.8	1.000093
34000.0	275.5	-36.3	38.7	405.1	599.7	21.2	6.3	1.000091
34500.0	269.6	-37.5	46.5	37.7	396.5	23.5	6.4	1.000089
35000.0	263.7	-38.3	48.1	36.6	392.1	25.8	6.6	1.000088
35500.0	258.0	-40.1	51.8	26.0**	365.0	594.6	25.0	6.8
36000.0	252.7	-41.3	52.0	7.6**	379.1	595.2	25.1	7.1
36500.0	246.7	-42.0	51.0		372.7	591.0	25.9	7.5
37000.0	244.1	-43.9	51.0		366.3	569.3	27.1	6.0
37500.0	235.6	-45.1	51.0		360.0	588.3	20.4	8.2
38000.0	230.3	-46.4	51.0		353.9	580.0	24.9	8.2
38500.0	225.1	-47.7	51.0		247.9	564.9	15.9	7.8
39000.0	220.0	-49.0	51.0		342.0	582.2	359.3	7.4
39500.0	215.0	-50.3	51.0		336.6	581.5	348.1	8.8
40000.0	210.2	-51.6	51.0		320.4	579.9	343.2	11.0
40500.0	205.3	-52.6	51.0		324.2	578.6	349.9	12.6
41000.0	200.5	-53.6	51.0		316.1	577.3	0.0	14.1
41500.0	195.8	-54.1	51.0		311.4	576.6	10.0	14.6
42000.0	191.3	-54.5	51.0		304.7	575.1	22.1	15.1
42500.0	186.7	-55.4	51.0		296.7	574.9	30.4	13.7
43000.0	182.2	-56.5	51.0		293.0	575.5	40.1	12.2
43500.0	177.6	-57.5	51.0		287.4	572.0	52.0	11.2
44000.0	173.6	-58.6	51.0		281.6	570.6	65.5	10.8
44500.0	169.4	-59.7	51.0		276.5	569.2	68.9	10.2
45000.0	165.4	-60.7	51.0		271.2	567.3	69.6	9.6
45500.0	161.4	-61.8	51.0		266.0	566.4	71.2	8.7
46000.0	157.5	-62.9	51.0		260.9	564.9	73.7	7.7
46500.0	153.7	-63.9	51.0		256.0	563.5	76.3	6.9
47000.0	150.1	-65.0	51.0		251.1	562.1	80.2	6.3
47500.0	146.4	-65.4	51.0		245.4	561.5	94.9	5.9
48000.0	142.7	-65.8	51.0		239.6	561.0	100.0	5.9

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STATION ALTITUDE 3,939.0 FEET MSL
13 JULY 76 0750 HRS MDT
ASCENS. 1.0. 452

UPPER AIR DATA
1940020432
WHITE SANDS
TABLE IX. (CONT)

GEOGRAPHIC COORDINATES
32°44'04.2" LAT DEG
106°37'03.3" LON DEG

GEOMETRIC PRESSURE ALTITUDE MILLIBARS FEET	TEMPERATURE- AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	REL.HUM. GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA KNOTS	INDEX OF REFRACTION
48500.0	139.2	-66.2	234.3	560.0	105.0	6.0	1.000052
49000.0	135.8	-66.6	229.0	559.9	109.7	5.8	1.000051
49500.0	132.4	-67.0	223.8	559.4	114.0	5.7	1.000050
50000.0	129.1	-67.6	218.6	558.0	113.4	5.1	1.000049
50500.0	125.9	-68.4	214.2	557.4	106.0	4.2	1.000048
51000.0	122.7	-69.2	209.0	556.3	92.8	5.9	1.000047
51500.0	119.6	-70.1	205.2	555.2	80.2	9.0	1.000046
52000.0	116.6	-70.9	200.8	554.0	93.9	12.5	1.000045
52500.0	113.7	-71.7	190.0	552.9	102.4	16.4	1.000044
53000.0	110.8	-72.6	192.4	551.8	110.7	18.9	1.000043
53500.0	108.0	-73.4	186.3	550.0	121.0	20.4	1.000042
54000.0	105.3	-73.2	185.4	550.9	129.4	21.1	1.000041
54500.0	102.6	-72.3	177.9	552.1	132.2	18.6	1.000040
55000.0	100.0	-71.5	172.7	553.2	131.2	14.9	1.000038
55500.0	97.5	-71.1	168.0	555.8	97.2	8.9	1.000037
56000.0	95.0	-70.6	163.5	554.4	49.2	9.3	1.000036
56500.0	92.7	-70.2	159.4	555.0	45.6	10.7	1.000035
57000.0	90.4	-69.3	154.6	555.6	47.4	11.5	1.000034
57500.0	88.1	-69.3	150.0	556.2	69.7	10.6	1.000034
58000.0	85.9	-68.9	146.5	556.8	91.0	11.4	1.000033
58500.0	83.8	-68.5	142.0	557.4	68.5	12.5	1.000032
59000.0	81.7	-66.0	136.7	557.9	88.4	13.6	1.000031
59500.0	79.6	-67.6	135.0	558.5	63.9	15.5	1.000030
60000.0	77.6	-67.6	131.3	559.1	81.5	17.5	1.000029
60500.0	75.7	-66.7	127.6	559.7	62.9	21.5	1.000028
61000.0	73.8	-66.3	124.3	560.3	84.2	26.3	1.000028
61500.0	72.0	-65.9	121.0	560.9	87.4	27.7	1.000027
62000.0	70.2	-65.4	117.7	561.5	93.0	24.9	1.000026
62500.0	68.5	-64.3	114.1	563.1	102.0	22.3	1.000025
63000.0	66.8	-63.0	110.6	564.8	114.5	16.4	1.000025

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STATION ALTITUDE 3439.00 FEET MSL
 13 JULY 76 0750 HRS MDT
 ASCENS/ON, .0. 432

UPPER AIR DATA
 1940020432
 WHITE SANDS
 TABLE IX. (CONT)

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY G/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
00500.0	950.2	-51.7	107.	560.5	132.4	15.6	1.000024	
04000.0	950.6	-50.5	104.4	560.1	135.1	16.0	1.000023	
04500.0	922.1	-50.4	101.6	565.3	133.4	16.7	1.000023	
05000.0	900.6	-60.5	99.4	566.1	130.0	16.1	1.000022	
05500.0	892.1	-60.0	96.9	565.0	125.5	14.1	1.000022	
06000.0	571.7	-60.7	94.6	567.8	117.4	12.5	1.000021	
06500.0	500.3	-60.8	92.4	567.7	99.5	12.5	1.000021	
07000.0	55.0	-60.9	90.2	567.0	63.3	13.8	1.000020	
07500.0	55.6	-61.0	88.1	567.4	76.4	17.0	1.000020	
08000.0	52.4	-61.1	86.0	567.3	72.6	20.6	1.000019	
08500.0	51.1	-61.2	84.0	567.2	71.9	23.9	1.000019	
09000.0	49.9	-61.2	82.6	567.1	74.5	25.4	1.000018	
09500.0	46.7	-60.7	79.8	567.9	76.9	26.9	1.000018	
10000.0	47.5	-60.1	77.7	565.6	78.9	26.8	1.000017	
10500.0	46.4	-59.5	75.7	569.4	81.0	26.2	1.000017	
11000.0	45.3	-59.0	73.7	570.1	63.5	25.7	1.000016	
11500.0	44.2	-58.4	71.7	570.6	57.3	25.6	1.000016	
12000.0	43.2	-57.9	69.9	571.9	91.2	25.5	1.000016	
12500.0	42.1	-57.3	66.0	572.3	1.000015			
13000.0	41.1	-56.8	66.2	573.1	1.000015			
13500.0	40.2	-56.2	64.5	573.3	1.000014			
14000.0	39.2	-55.0	62.0	574.6	1.000014			

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STATION ALTITUDE 7985.00 FEET MSL
1 JULY 73 0750 HRS MDT
ASCENSION I.O. 432

NAVIGATORY LEVELS
19400-0432
WHITE SANDS
TABLE X.

GEOGRAPHIC COORDINATES
32°40'04.3" LAT DEC
106°37'03.3" LON DEC

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MILLIBARS	PRESSURE CELESTIAL FEET	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	RELATIVE HUMIDITY PERCENT	WIND DATA DIRECTION DEGREES (TM)	WIND SPEED KNOTS
550.0	4994.	25.1	9.0	35.	1.5
600.0	6722.	26.2	7.0	37.	20.5
750.0	8560.	19.0	4.5	35.	4.3
700.0	10460.	14.1	2.7	40.	1.4
650.0	12525.	9.5	-0.6	49.	3.3
600.0	14687.	4.6	-4.6	51.	0.6
550.0	16993.	-8	-7.1	62.	0.4
500.0	19460.	-5.6	-19.6	32.	9.0
450.0	22150.	-11.0	-23.6	34.	2.8
400.0	25029.	-16.4	-25.0	47.	4.6
350.0	26337.	-23.8	-33.2	41.	4.6
300.0	31960.	-31.2	-39.6	43.	3.8
250.0	36120.	-41.6		25.1	7.2
200.0	40950.	-53.7			14.3
175.0	43745.	-56.2			10.8
150.0	46679.	-65.0			0.3
125.0	50425.	-68.6			4.0
100.0	54621.	-71.5			15.5
30.0	59160.	-67.7			14.6
70.0	61837.	-65.4			24.6
50.0	64960.	-60.5			15.4
50.0	68624.	-61.3			25.1
40.0	73260.	-56.1			

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4395.50 FEET MSL
13 JULY 78 5 0750 HRS MDT
ASCENSION NO.

SIGNIFICANT LEVEL DATA
1940230005
SW 70
TABLE XI.

GEODETIC COORDINATES
33° 36' 08" LAT DEG
106° 40' 06" LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
868.6	4395.5	27.0	11.9 39.0
850.0	5022.4	25.5	9.3 36.0
831.0	5673.6	24.0	9.2 39.0
819.8	6063.8	24.5	7.6 34.0
765.4	8027.4	21.0	5.4 36.0
700.0	10540.0	14.9	3.1 45.0
558.2	16675.4	0.0	-6.0 04.0
531.6	17955.9	-3.1	-6.0 80.0
522.8	18390.3	-4.1	-8.7 70.0
500.0	19542.0	-7.0	-10.7 75.0
488.8	20122.5	-8.4	-11.5 78.0
472.2	21002.3	-10.1	-14.3 71.0
464.0	21446.4	-10.7	-18.0 55.0
448.0	22332.1	-12.3	-17.5 65.0
400.0	25162.5	-16.1	-27.7 36.0
387.0	25978.1	-18.2	-27.9 42.0
372.6	26907.1	-20.1	-25.5 62.0
337.6	29289.6	-25.4	-33.6 46.0
317.8	30727.0	-27.7	-40.5 28.0
300.0	32062.3	-31.0	-44.1 26.0
268.2	34661.1	-38.1	-48.6 31.0
250.0	36241.0	-42.1	
200.0	41085.6	-54.2	
171.0	44358.3	-59.3	
150.0	47024.8	-65.5	
116.6	51993.2	-72.4	
100.0	54967.4	-70.4	
79.0	59632.5	-68.2	
70.0	62004.2	-62.3	
62.8	64297.1	-58.6	

STATION ALTITUDE 4395.50 FEET MSL
13 JULY 78 0750 HRS MDT
ASCENSION NO. 5

SIGNIFICANT LEVEL DATA
1940230005
SW 70
TABLE XI. (CONT)

GEODETIC COORDINATES
33.36888 LAT DEG
106.40406 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	REL.HUM. PERCENT
50.0	69019.9	-59.4	
30.0	79760.5	-52.6	
21.5	86964.9	-47.4	

STATION ALTITUDE 4395.50 FEET MSL
 13 JULY 78 0750 HRS MDT
 ASCENSION NO. 5

UPPER AIR DATA
 1940230005
 SW 70
 TABLE XII.

GEOGRAPHIC COORDINATES
 33.36888 LAT DEG
 106.40406 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND SPEED KNOTS	DATA REFRACTION INDEX OF
4395.5	868.6	27.0 11.9	39.0	1002.0	677.0	60.0	6.0	1.000282
4500.0	865.5	26.7 11.5	38.5	999.4	676.7	51.3	5.3	1.000280
5000.0	850.7	25.6 9.4	36.1	986.9	675.1	347.5	4.9	1.000270
5500.0	836.0	24.4 9.2	38.2	973.6	673.8	314.7	8.8	1.000267
6000.0	821.6	24.4 7.9	34.6	957.2	673.7	305.1	10.0	1.000259
6500.0	807.4	23.7 7.1	34.4	942.9	672.8	300.0	8.8	1.000254
7000.0	793.4	22.8 6.6	35.0	929.5	671.8	302.7	6.9	1.000249
7500.0	779.6	21.9 6.0	35.5	916.2	670.7	309.1	5.9	1.000245
8000.0	766.1	21.0 5.4	36.0	903.2	669.7	315.7	4.8	1.000241
8500.0	752.6	19.9 5.0	37.7	890.9	668.3	321.9	3.5	1.000237
9000.0	739.4	18.6 4.6	39.5	878.9	666.9	324.4	1.6	1.000234
9500.0	726.4	17.4 4.1	41.3	867.1	665.5	110.9	-3	1.000230
10000.0	713.6	16.2 3.7	43.1	855.5	664.1	113.9	1.6	1.000227
10500.0	701.0	15.0 3.1	44.9	844.0	662.7	102.6	2.2	1.000223
11000.0	688.2	13.8 2.5	46.4	832.2	661.2	84.0	2.3	1.000219
11500.0	675.6	12.6 1.9	48.0	820.6	659.8	187.5	-4	1.000215
12000.0	663.3	11.4 1.2	49.5	809.1	658.4	246.9	2.7	1.000211
12500.0	651.2	10.1 .5	51.1	797.6	656.9	252.4	5.1	1.000208
13000.0	639.3	8.9 -.2	52.6	786.7	655.5	254.0	6.0	1.000204
13500.0	627.6	7.7 -1.0	54.2	775.7	654.0	255.0	6.1	1.000200
14000.0	616.1	6.5 -1.7	55.7	765.0	652.6	247.9	5.7	1.000197
14500.0	604.8	5.3 -2.5	57.3	754.4	651.1	238.1	5.3	1.000193
15000.0	593.8	4.1 -3.2	58.8	743.9	649.6	218.1	4.4	1.000189
15500.0	582.9	2.9 -4.0	60.4	733.6	648.2	191.0	4.5	1.000186
16000.0	572.3	1.6 -4.9	61.9	723.5	646.7	169.6	6.0	1.000183
16500.0	561.8	.4 -5.7	63.5	713.5	645.2	163.7	7.5	1.000179
17000.0	551.3	-.8 -5.9	68.1	703.3	643.8	163.3	8.7	1.000177
17500.0	540.9	-2.0 -5.9	74.3	693.0	642.4	164.0	9.0	1.000175
18000.0	530.7	-3.2 -6.3	79.0	683.0	641.0	164.9	9.2	1.000172
18500.0	520.6	-4.4 -8.9	70.5	673.2	639.4	167.4	8.4	1.000166

STATION ALTITUDE 4395.50 FEET MSL
 13 JULY 78 0750 HRS MDT
 ASCENSION NO. 5

UPPER AIR DATA
 1940230005
 SW 70
 TABLE XII. (CONT)

GEODETIC COORDINATES
 33.36888 LAT DEG
 106.40406 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	INDEX OF REFRACTION
19000.0	510.6	-5.6	-9.7	72.6	663.5	637.9	8.6
19500.0	500.8	-6.9	-10.6	74.8	653.9	636.3	10.6
20000.0	491.1	-8.1	-11.3	77.4	644.3	634.9	12.1
20500.0	481.6	-9.1	-12.7	75.0	634.3	633.6	13.2
21000.0	472.2	-10.1	-14.3	71.0	624.4	632.4	11.2
21500.0	463.0	-10.8	-17.9	55.6	614.1	631.4	9.3
22000.0	453.9	-11.7	-17.6	61.3	604.1	630.3	202.0
22500.0	445.0	-12.5	-18.0	63.3	594.1	629.3	199.9
23000.0	436.2	-13.2	-19.6	58.2	583.9	628.5	172.2
23500.0	427.5	-13.9	-21.3	53.0	573.9	627.6	122.7
24000.0	419.1	-14.5	-23.1	47.9	564.0	626.8	82.1
24500.0	410.8	-15.2	-25.0	42.8	554.3	625.9	21.6
25000.0	402.6	-15.9	-27.0	37.7	544.8	625.1	339.4
25500.0	394.6	-17.0	-27.7	38.5	536.2	623.7	325.2
26000.0	386.7	-18.2	-27.8	42.5	528.1	622.2	326.6
26500.0	378.8	-19.3	-26.3	53.2	519.5	621.0	334.8
27000.0	371.2	-20.3	-25.8	61.4	511.0	619.7	352.3
27500.0	363.6	-21.4	-27.4	58.0	502.8	618.3	325.2
28000.0	356.1	-22.5	-29.1	54.7	494.7	616.9	34.5
28500.0	348.8	-23.6	-30.8	51.3	486.8	615.5	45.5
29000.0	341.7	-24.8	-32.6	47.9	479.0	614.1	48.7
29500.0	334.6	-25.7	-34.5	43.4	471.0	612.9	50.6
30000.0	327.7	-26.5	-36.8	37.1	462.7	611.9	55.9
30500.0	320.8	-27.3	-39.3	30.8	454.6	610.9	60.5
31000.0	314.1	-28.4	-41.2	27.6	447.0	609.6	62.1
31500.0	307.5	-29.6	-42.6	26.9	439.8	608.1	60.6
32000.0	301.1	-30.8	-43.9	26.1	432.7	606.5	57.0
32500.0	294.6	-32.1	-44.8	26.8	425.8	604.8	55.0
33000.0	288.3	-33.5	-45.7	27.8	419.0	603.1	54.1
33500.0	282.1	-34.9	-46.6	28.7	412.4	601.4	60.0

STATION ALTITUDE 4395.50 FEET MSL
 13 JULY 78 0750 HRS MDT
 ASCENSION NO. 5

UPPER AIR DATA
 1940230005
 SW 70
 TABLE XII. (CONT.)

GEODETIC COORDINATES
 33.36888 LAT DEG
 106.40406 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	INDEX OF REFRACTION
34000.0	276.0	-36.3	-47.6	29.7	405.9	599.6	66.2	1.000091
34500.0	270.1	-37.7	-48.5	30.7	399.5	597.9	65.7	1.000089
35000.0	264.2	-39.0	-51.7	24.4**	393.0	596.2	62.9	1.000088
35500.0	258.4	-40.2	-56.9	14.5**	386.4	594.6	59.2	1.000086
36000.0	252.7	-41.5	-66.4	4.7**	380.0	593.0	52.6	1.000085
36500.0	247.0	-42.7			373.5	591.3	51.6	1.000083
37000.0	241.4	-44.0			367.0	589.7	58.4	1.000082
37500.0	235.9	-45.2			360.6	588.1	47.6	4.0
38000.0	230.5	-46.5			354.3	586.5	31.2	4.0
38500.0	225.3	-47.7			348.2	584.9	8.7	5.0
39000.0	220.2	-49.0			342.2	583.3	3.9	6.0
39500.0	215.2	-50.2			336.2	581.6	7.9	6.8
40000.0	210.3	-51.5			330.4	580.0	15.0	7.0
40500.0	205.5	-52.7			324.7	578.4	23.5	7.0
41000.0	200.8	-54.0			319.2	576.7	26.3	6.5
41500.0	196.1	-54.8			312.9	575.6	27.7	6.1
42000.0	191.4	-55.6			306.6	574.6	19.6	6.9
42500.0	186.9	-56.4			300.4	573.5	13.7	7.8
43000.0	182.5	-57.2			294.4	572.5	17.4	8.0
43500.0	178.2	-58.0			288.4	571.5	20.8	8.4
44000.0	174.0	-58.7			282.6	570.4	43.3	7.2
44500.0	169.8	-59.6			277.1	569.3	69.6	7.5
45000.0	165.7	-60.8			271.8	567.7	84.0	7.7
45500.0	161.7	-62.0			266.7	566.2	95.3	8.0
46000.0	157.7	-63.1			261.6	564.6	100.4	7.2
46500.0	153.9	-64.3			256.7	563.0	101.8	5.4
47000.0	150.2	-65.4			251.9	561.5	97.5	3.8
47500.0	146.4	-66.2			246.4	560.5	72.3	2.6
48000.0	142.8	-66.9			241.1	559.6	45.1	2.6
48500.0	139.2	-67.5			235.8	558.6	47.2	3.5

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4395.50 FEET MSL
 13 JULY 78 0750 HRS MDT
 ASCENSION NO.

UPPER AIR DATA
 1940230005
 SW 70
 TABLE XIII. (CONT.)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
49000.0	135.7	-68.2	230.7	557.7	51.2	4.2	1.0000051	
49500.0	132.3	-68.9	225.7	556.7	63.4	4.3	1.0000050	
50000.0	129.0	-69.6	220.8	555.8	72.1	4.7	1.0000049	
50500.0	125.8	-70.3	216.0	554.8	63.9	5.4	1.0000048	
51000.0	122.6	-71.0	211.3	553.9	57.6	6.2	1.0000047	
51500.0	119.6	-71.7	206.8	552.9	73.4	8.0	1.0000046	
52000.0	116.6	-72.4	202.3	552.0	83.0	10.2	1.0000045	
52500.0	113.6	-72.1	196.8	552.4	101.1	12.2	1.0000044	
53000.0	110.7	-71.7	191.5	552.9	115.2	15.1	1.0000043	
53500.0	107.9	-71.4	186.4	553.4	127.8	15.2	1.0000041	
54000.0	105.2	-71.1	181.3	553.8	143.4	14.4	1.0000040	
54500.0	102.5	-70.7	176.5	554.3	160.9	14.0	1.0000039	
55000.0	99.9	-70.4	171.7	554.7	180.6	14.2	1.0000038	
55500.0	97.4	-70.2	167.2	555.1	196.1	14.4	1.0000037	
56000.0	95.0	-69.9	162.8	555.4	208.5	10.7	1.0000036	
56500.0	92.6	-69.7	158.6	555.7	231.7	7.8	1.0000035	
57000.0	90.3	-69.4	154.4	556.0	317.2	3.2	1.0000034	
57500.0	88.0	-69.2	150.4	556.3	14.7	10.4	1.0000033	
58000.0	85.8	-69.0	146.4	556.7	33.9	16.0	1.0000033	
58500.0	83.7	-68.7	142.6	557.0	55.2	20.5	1.0000032	
59000.0	81.6	-68.5	138.9	557.3	68.7	24.4	1.0000031	
59500.0	79.5	-68.3	135.2	557.6	85.0	22.6	1.0000030	
60000.0	77.6	-67.3	131.3	558.9	101.8	22.5	1.0000029	
60500.0	75.7	-66.1	127.3	560.6	111.3	20.0	1.0000028	
61000.0	73.8	-64.9	123.5	562.2	122.9	18.3	1.0000027	
61500.0	72.0	-63.7	119.7	563.9	119.4	18.8	1.0000027	
62000.0	70.2	-62.5	116.1	565.5	114.0	19.8	1.0000026	
62500.0	68.5	-61.6	112.8	566.7	110.9	19.9	1.0000025	
63000.0	66.9	-60.7	109.7	567.8	109.0	19.5	1.0000024	
63500.0	65.3	-59.9	106.7	568.9	107.6	18.9	1.0000024	

STATION ALTITUDE 4395.50 FEET MSL
 13 JULY 78 0750 HRS MDT
 ASCENSION NO. 5

UPPER AIR DATA
 1940230005
 SW 70
 TABLE XII. (CONT)

GEOGRAPHIC COORDINATES
 33.36888 LAT DEG
 106.40406 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND KNOTS METER	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
64000.0	63.7	-59.1	103.7	570.0	108.4	17.9
64500.0	62.2	-58.6	101.0	570.6	109.3	16.9
65000.0	60.7	-58.7	98.6	570.5	103.0	15.4
65500.0	59.3	-58.8	96.3	570.4	92.6	14.0
66000.0	57.8	-58.9	94.0	570.3	82.1	13.4
66500.0	56.5	-59.0	91.8	570.1	74.2	13.4
67000.0	55.1	-59.1	89.7	570.0	66.4	13.6
67500.0	53.8	-59.1	87.6	569.9	70.2	15.0
68000.0	52.5	-59.2	85.5	569.8	73.8	16.5
68500.0	51.3	-59.3	83.5	569.7	77.6	18.6
69000.0	50.0	-59.4	81.6	569.6	80.9	21.1
69500.0	48.9	-59.1	79.5	570.0	83.5	23.1
70000.0	47.7	-58.8	77.6	570.4	86.0	23.7
70500.0	46.6	-58.5	75.6	570.8	88.3	24.3
71000.0	45.5	-58.1	73.7	571.2	90.3	24.2
71500.0	44.4	-57.8	71.9	571.7	92.4	24.0
72000.0	43.4	-57.5	70.1	572.1	93.8	24.2
72500.0	42.4	-57.2	68.4	572.5	94.6	24.7
73000.0	41.4	-56.9	66.6	572.9	95.1	25.2
73500.0	40.4	-56.6	65.0	573.3	93.4	25.3
74000.0	39.5	-56.2	63.4	573.8	91.7	25.5
74500.0	38.5	-55.9	61.8	574.2	88.5	26.1
75000.0	37.6	-55.6	60.2	574.6	84.9	27.0
75500.0	36.7	-55.3	58.7	575.0	82.4	27.9
76000.0	35.9	-55.0	57.3	575.4	81.7	28.7
76500.0	35.0	-54.7	55.9	575.8	81.2	29.5
77000.0	34.2	-54.3	54.5	576.3	80.9	30.9
77500.0	33.4	-54.0	53.1	576.7	80.7	32.3
78000.0	32.6	-53.7	51.8	577.1	81.1	34.0
78500.0	31.9	-53.4	50.5	577.5	82.1	36.0

STATION ALTITUDE 4395.50 FEET MSL
 13 JULY 78 0750 HRS MDT
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UPPER AIR DATA
 1940230005
 SW 70 TABLE XII. (CONT.)

GEODETIC COORDINATES
 33°36'8.88 LAT DEG
 106°40'40.6 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
79000.0	31.1	-53.1	49.2	577.9	82.9	38.0	1.000011	
79500.0	30.4	-52.8	48.0	578.3	87.2	38.1	1.000011	
80000.0	29.7	-52.4	46.8	578.8	91.7	38.2	1.000010	
80500.0	29.0	-52.1	45.7	579.3	94.8	37.9	1.000010	
81000.0	28.3	-51.7	44.6	579.7	95.8	36.4	1.000010	
81500.0	27.7	-51.3	43.5	580.2	96.9	35.0	1.000010	
82000.0	27.0	-51.0	42.4	580.7	95.6	35.1	1.000009	
82500.0	26.4	-50.6	41.4	581.1	93.7	35.5	1.000009	
83000.0	25.8	-50.3	40.4	581.6	92.2	36.0	1.000009	
83500.0	25.2	-49.9	39.4	582.1	92.0	35.9	1.000009	
84000.0	24.7	-49.5	38.4	582.6	91.9	35.9	1.000009	
84500.0	24.1	-49.2	37.5	583.0	91.8	35.5	1.000008	
85000.0	23.5	-48.8	36.6	583.5	91.7	34.9	1.000008	
85500.0	23.0	-48.5	35.7	584.0	91.6	34.4	1.000008	
86000.0	22.5	-48.1	34.8	584.4	33.9	34.8	1.000008	
86500.0	22.0	-47.7	33.9	584.9	33.9	34.9	1.000008	

STATION ALTITUDE 4395.50 FEET MSL
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 ASCENSION NO. 5

MANDATORY LEVELS
 1940230005
 SW 70
 TABLE XIII.

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	AIR DEGREES	TEMPERATURE CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5019.	25.5	9.3	36.	345.3	5.0
800.0	6764.	23.3	6.8	35.	301.2	7.8
750.0	8597.	19.6	4.9	38.	323.6	3.3
700.0	10530.	14.9	3.1	45.	101.2	2.2
650.0	12572.	10.0	4	51.	252.9	5.5
600.0	14738.	4.8	-2.8	58.	229.1	4.8
550.0	17044.	-9	-5.9	69.	163.2	6.8
500.0	19510.	-7.0	-10.7	75.	170.3	10.7
450.0	22187.	-12.1	-17.5	64.	206.4	7.1
400.0	25122.	-16.1	-27.7	36.	333.8	3.8
350.0	28374.	-23.5	-30.5	52.	43.7	6.2
300.0	32020.	-31.0	-44.1	26.	56.5	6.9
250.0	36165.	-42.1			49.5	8.2
200.0	40980.	-54.2			26.7	6.4
175.0	43770.	-58.5			36.3	7.4
150.0	46899.	-65.5			97.3	3.8
125.0	50494.	-70.5			62.3	5.6
100.0	54820.	-70.4			179.2	14.1
80.0	59190.	-68.3			80.1	22.9
70.0	61854.	-62.3			113.6	19.9
60.0	65013.	-58.8			98.7	14.7
50.0	68764.	-59.4			80.8	21.1
40.0	73379.	-56.4			92.9	25.4
30.0	79423.	-52.6			89.3	38.1
25.0	63313.	-49.8			92.0	35.9

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.